DOCUMENT-IDENTIFIER: US 6268457 B1
TITLE: Spin-on glass anti-reflective coatings for photolithography

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CLPR:
1. A **dyed spin**-on-glass composition comprising a siloxane **polymer** and an incorporatable organic dye that strongly absorbs light over at least an approximately 10 nm wide wavelength range, the range at wavelengths less than about 260 nm.

CLPR:
17. A method of making a coating solution containing a **dyed spin**-on-glass **polymer** comprising:

CLPR:
18. The method of claim 17 wherein the coating solution is between about 1% and about 20% **dyed spin**-on-glass **polymer**.

CLPV:
refluxing the reaction mixture to form a **dyed spin**-on-glass **polymer**; and

L Number	Hits	Search Text	DB	Time stamp
1	3	(dyed adj spin) with polymer	USPAT; US-PGPUB	2002/06/01 13:08
2	0	(dyed adj spin) with polymer	EPO; JPO; DERWENT; IBM_TDB	2002/06/01 13:03
3	0	via with (dyed adj spin) with polymer	USPAT; US-PGPUB	2002/06/01 13:09
4	0	via with (dyed adj spin) with polymer	EPO; JPO; DERWENT; IBM_TDB	2002/06/01 13:09
5	0	(opening or hole)with (dyed adj spin) with polymer	EPO; JPO; DERWENT; IBM_TDB	2002/06/01 13:09
6	0	(opening or hole)with (dyed adj spin) with polymer	USPAT; US-PGPUB	2002/06/01 13:09
7	0	trench with (dyed adj spin) with polymer	USPAT; US-PGPUB	2002/06/01 13:10
8	0	trench with (dyed adj spin) with polymer	EPO; JPO; DERWENT; IBM_TDB	2002/06/01 13:10

L Number	Hits	Search Text	DB	Time stamp
1	121	(barrier with (silicon adj nitride)) same ((silicon adj carbide) with barrier)	USPAT; US-PGPUB	2002/06/01 10:33
2	87	((barrier with (silicon adj nitride)) same ((silicon adj carbide) with barrier)) and @ad<=20000102	USPAT; US-PGPUB	2002/06/01 10:22
3	23	(((barrier with (silicon adj nitride)) same ((silicon adj carbide) with barrier)) and @ad<=20000102) and conductive and dielectric	USPAT; US-PGPUB	2002/06/01 10:22
4	17	(barrier with (silicon adj nitride)) same ((silicon adj carbide) with barrier)	EPO; JPO; DERWENT; IBM TDB	2002/06/01 10:33

DOCUMENT-IDENTIFIER: US 5045870 A
TITLE: Thermal ink drop on demand devices on a single chip with vertical integration of driver device

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BSPR:
Once the resistors 17 and metal lines 19 are defined, it is known to deposit a **silicon nitride or silicon carbide** film 21 to act as a **barrier** layer to provide protection for the heater resistor structures from chemical attack by the ink. Typically, the ink is stored in a reservoir behind the ink jet chip and is transported through an access hole to a secondary reservoir area over the barrier layer covering the heater region 16 by gravity and capillary action. Also known is an organic overcoat 25 which further enhances protection for the heater resistors 16 from the ink. These barrier layers 21, 25 are very important because of the corrosive nature of the ink. Therefore, they must be chemically inert and highly impervious to the ink. Once the barrier layers have been deposited, the chip is ready for placement in the printhead. Typically, connection to the other electronic circuitry in the printer is provided using a flex circuit connected to an interconnect pad 29. Among the printer circuitry are the driver pulse circuits which fire the heater resistors.

DEPR:
Referring to FIG. 2, the last level of patterned metallization layer 13 of the pulse driver MOS circuitry is depicted on the silicon substrate 11. A thermal barrier layer 15, preferably formed from a low-temperature

chemical vapor deposition (CVD) process, is then deposited on the patterned metallization layer 13. This thermal barrier layer 15 is then planarized to provide a flat substrate for the heater elements of the ink jet devices. A resistive material layer 17 is deposited and photolithographically patterned to define heater regions 16. After the resistive material 17 has been patterned, a film of resist is applied, exposed, and developed. Openings into the oxide are then etched using established RIE technology to establish the contact holes for both the interconnection to the outputs of the driver circuitry to the inkjet devices 20 and current inputs to the driver circuitry 18. Conducting layer 19, typically a metal layer such as aluminum, is deposited and photolithographically patterned. The conducting layer 19 not only carries current pulses from the outputs of the driver circuitry layer 13 to the heater regions 17, but also defines the geometry of the heater region 16 as shown in FIG. 2. Next, **barrier** layers 21 and 23 of **silicon nitride and silicon carbide** respectively are deposited. An additional organic barrier 25 can be deposited and patterned if so desired. Finally, a gold TAB bump 27 is fabricated to provide inputs via a flex circuit interconnection to the MOS driver circuitry 13.

DOCUMENT-IDENTIFIER: US 5194877 A
TITLE: Process for manufacturing thermal ink jet printheads having metal
substrates and printheads manufactured thereby

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DEPR:
Referring now to FIGS. 3A and 3B, these figures illustrate the successive deposition and formation of a first surface insulator layer 14 on the surface of a nickel substrate 12 and then the formation of the resistive layer 15 on the surface of the insulating layer 14 to serve as the resistive heater material over which the succeeding conductive trace pattern 18 is deposited using well known aluminum vacuum deposition and patterning processes. Then, the polymer barrier layer material 20 is formed in the geometry shown directly upon the upper surface of the conductive trace material 18. However, in certain alternative embodiments it may be preferred to add another additional passivation layer such as a composite deposition of **silicon nitride and silicon carbide** (not shown) interposed between the lower surface of the polymer **barrier** layer material 20 and the upper surface of the conductive trace pattern 18 and resistive heater material 15.